

Penn Resilient Wheels - Bochum 2000

Penn Machine Company is a major supplier of solid and resilient wheels. Included in our product line are solid wheels, the original PCC resilient and super resilient wheels, Penn Super Cushion wheels and Bochum 54, 84 and 2000 resilient wheels licensed by Bochumer Verein Verkehrstechnik.



Advantages of Resilient Wheels:

- Improved ride quality
- Noise reduction
- Reduced unsprung mass
- Tire and track wear reduced
- Only tire and rubber blocks require replacement at end of lifecycle
- Reduces ground-borne vibration

Design/Construction Features:

All Penn/Bochum resilient wheels have an elastic layer between the steel tire and wheel center. This elastic layer is comprised of a number of individual rubber or ring elements with precisely matched elasticity and damping properties. These wheels have the required conductive continuity. The divided wheel body facilitates dismantling and refitting of the wheel tire and can even be performed under the vehicle in the appropriate installation situation.



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Penn Resilient Wheels - Bochum 2000 (continued)



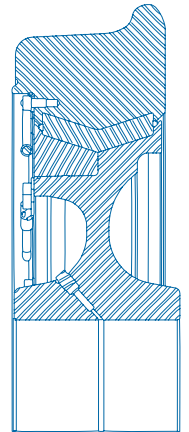
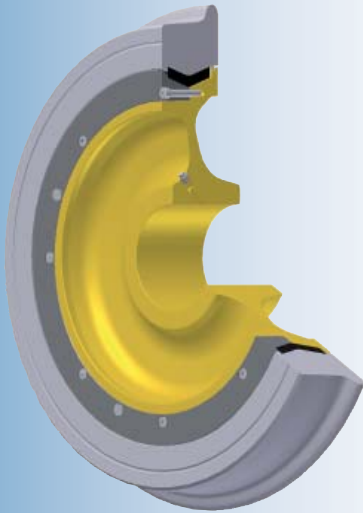
Advantages of Bochum 2000 over Bochum 54 and Bochum 84 Resilient Wheels:

- Tires can be changed without removing wheel set from truck (inboard bearing design)
- Tires can be changed with axle in horizontal position
- Less cost to change tires
- Lateral direction – firmer than Bochum 54 wheel and Bochum 84 wheel
- Will permit heavier wheel load than Bochum 54 and Bochum 84 wheel
- Can be custom designed for wheels 20-inch diameter or larger
- Tire changing equipment is portable resulting in less capital investment.

Technical Data:

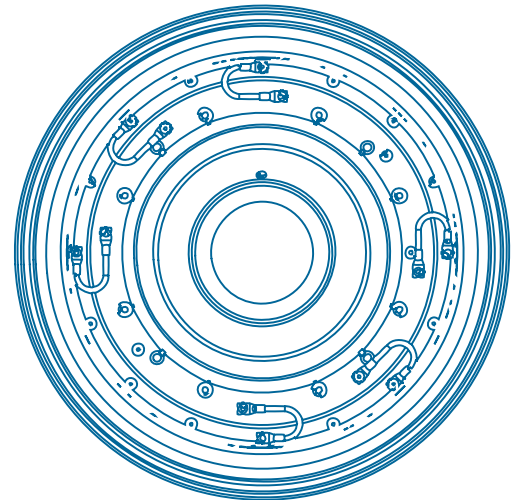
- Radial Spring Rate: 1,140,000 lbs/inch (200 kN/mm)
- Axial Spring Rate: 114,000 lbs/inch (20 kN/mm)
- Deflection at 5 Ton Wheel Load: 0.009-inch (0.23 mm)
- Max Torque Experienced: \approx 8,000 ft-lbs (11 kN-m)
- Torque Carrying Capability: > 22,000 ft-lbs (30 kN-m)

At present, Penn Machine Company and Bochumer Verein have over 300,000 resilient wheels in service worldwide.



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A Murnen Group/Berkshire Hathaway Company